

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1- 17 (cancelled).

Claim 18 (currently amended): ~~A process for arc welding, which comprises:~~

- ~~(a) — at least one metal workpiece (1);~~
 - ~~(b) — a matrix (2) consisting of at least one brazed zone (3); and~~
 - ~~(c) — a braze that contains copper and phosphorus,~~
- ~~wherein said process comprises the steps of:~~
- ~~(i) — depositing at least one layer (5, 6, 7) of an alloy containing copper and tin on at least part of the brazed zone (3); and~~
 - ~~(ii) — welding the metal workpiece (1) to at least one copper/tin alloy layer (5, 6, 7).~~

A process for arc welding at least one metal workpiece to a matrix comprising at least one brazed zone, the braze of said brazed zone containing copper and phosphorus, wherein said process comprises the steps of:

- (i) depositing at least one layer of an alloy containing copper and tin on at least part of the brazed zone, said copper/tin alloy comprising at least 1.0 weight % of tin, and
- (ii) welding said metal workpiece to said at least one copper/tin alloy layer.

~~Claim 19 (cancelled): The process according to Claim 18, wherein said copper/tin alloy comprises at least about 1.0% tin by weight.~~

Claim 20 (previously presented): The process according to Claim 19, wherein said copper/tin alloy comprises at least about 1.05% tin by weight.

Claim 21 (previously presented): The process according to Claim 20, wherein said copper/tin alloy comprises at least about 1.2% tin by weight.

Claim 22 (previously presented): The process according to Claim 21, wherein said copper/tin alloy comprises less than about 10% tin by weight.

Claim 23 (previously presented): The process according to Claim 22, wherein said copper/tin alloy ranges from about 2% to about 8% tin by weight.

Claim 24 (previously presented): The process according to Claim 23, wherein said copper/tin alloy ranges from about 3% to about 6% tin by weight.

Claim 25 (previously presented): The process according to Claim 18, wherein said copper/tin alloy comprises at least about 80% copper by weight.

Claim 26 (previously presented): The process according to Claim 25, wherein said copper/tin alloy comprises at least about 90% copper by weight.

Claim 27 (previously presented): The process according to Claim 18, wherein said copper/tin alloy comprises less than about 1% phosphorus by weight.

Claim 28 (currently amended): The process according to Claim 18, wherein several copper/tin alloy layers ~~{5, 6, 7}~~ are deposited.

Claim 29 (currently amended): The process according to Claims 18, wherein deposition of said layers ~~{5, 6, 7}~~ comprise the steps of:

- (i) (a) preheating the alloy zone to be coated;
- (ii) (b) supplying and melting copper/tin alloy via an electric arc; and
- (iii) (c) depositing said melted alloy in the preheated alloy zone.

Claim 30 (previously presented): The process according to Claim 29, wherein said preheating is carried out by using at least one electric arc.

Claim 31 (previously presented): The process according to Claim 30, wherein said arc is generated by a TIG or a plasma welding torch.

Claim 32 (previously presented): The process according to Claim 29, wherein said copper/tin alloy is supplied in the form of a wire.

Claim 33 (previously presented): The process according to Claim 29, wherein said melting is generated by at least one MIG or TIG welding torch.

Claim 34 (currently amended): The process according to Claim 18, wherein said ~~phosphorus has a~~ at least one layer of copper and tin alloy has a phosphorus solubility limit that ranges from about 0.1% to about 3.5% by weight at the solidification temperature.

Claim 35 (currently amended): The process according to Claim 18, wherein ~~said matrix (2) comprises the steps of:~~

- ~~(i) (a) providing support via a stack of several plates (11);~~
- ~~(ii) (b) separating the plates by fins (12);~~
- ~~(iii) (c) forming spacers between the plates (11); and~~
- ~~(iv) (d) brazing the fins (12) to the plates (11);~~

~~wherein said matrix (2) and/or said workpiece (1) is a component of a fluid collecting and/or distributing container that forms part of a heat exchanger.~~
said brazed matrix is supported by a stack of several plates separated by fins forming spacers between the plates, said fins and plates being brazed to one another so as to form said brazed matrix.

Claim 36 (currently amended): The process according to Claim 35, wherein said workpiece (4) comprises copper or stainless steel.

Claim 37 (currently amended): The process according to Claim 35, wherein ~~manufacturing a brazed copper heat exchanger (10) comprises the steps of:~~

- ~~(i) (a) welding at least one fluid collecting and distributing container (1), to a stack of plates (11);~~
- ~~(ii) (b) forming spacers between the said plates (11) by the fins (12); and~~
- ~~(iii) (c) supporting at least one matrix (2).~~

the brazed matrix is part of a brazed copper heat exchanger and the workpiece is at least one fluid collecting and distributing container.

Claim 38 (currently amended): The process according to Claim 37, wherein said collecting and distributing container (4) comprises copper.

Claim 39 (currently amended): A process for manufacturing a copper heat exchanger ~~(10)~~ comprising at least one collecting and distributing container ~~(1)~~ that comprises the steps of:

- ~~(i) (a) welding said container (1) at 4 to a brazed (3) matrix (2);~~
- ~~(ii) (b) supporting said matrix by a stack of several plates (11);~~
- ~~(iii) (c) separating said plates (11) by fins (12); and~~
- ~~(iv) (d) forming spacers between said plates (11).~~
- (a) providing at least one collecting and distributing container,
- (b) providing a copper heat exchanger comprising a brazed matrix supported by a stack of several plates separated by fins forming spacers between said plates, at least one layer of an alloy containing copper and tin being deposited on at least part of the brazed matrix, said copper/tin alloy comprising at least 1.0 weight % of tin, and
- (c) welding said container to said at least one layer of the brazed matrix.

Claim 40 (cancelled).

Claim 41 (cancelled).

Claim 42 (currently amended): The process according to Claim 39, wherein said fluid collecting and distributing container ~~(1)~~, ~~welded at 4~~, comprises copper or stainless steel.

Claim 43 (cancelled).

Claim 44 (cancelled).

Claim 45 (cancelled).

Claim 46 (currently amended): The process according to Claim ~~[[40]]~~ 39, wherein said copper/tin alloy comprises tin in an amount selected from the group consisting of:

- ~~(a)~~ at least about 1.0% tin by weight;
- ~~(b)~~(a) at least about 1.05% tin by weight;
- ~~(c)~~(b) at least about 1.2% tin by weight;

- ~~(d)~~(c) less than about 10% tin by weight;
- ~~(e)~~(d) about 2% to about 8% tin by weight; and
- ~~(f)~~(e) about 3% to about 6% tin by weight.

Claim 47 (new): The process according to Claim 35, wherein said matrix and/or said workpiece is a component of a fluid collecting and/or distributing container that forms part of a heat exchanger.

Claim 48 (new): A heat exchanger comprising a brazed matrix supported by a stack of several plates separated by fins forming spacers between said plates, at least one layer of an alloy containing copper and tin being deposited on at least part of the brazed matrix, said copper/tin alloy comprising at least 1.0 weight % of tin, and further comprising at least one collecting and distributing container welded on said at least one layer of the brazed matrix.

Claim 49 (new): A heat exchanger according to claim 48, which is made of copper.

Claim 50 (new): A method which may be used for welding a metal workpiece onto a brazed zone, said method comprising:

- a) creating a brazed zone on a first workpiece, wherein said brazed zone comprises a copper / phosphorus alloy;
- b) depositing at least one additional layer onto at least part of said brazed zone, wherein:
 - 1) said additional layer comprises a copper / tin alloy; and
 - 2) said copper / tin alloy comprises at least about 1.0 % tin by weight;and
- c) welding a second workpiece to said additional layer, wherein said additional layer protects said brazed zone during said welding.

Claim 51 (new): An apparatus which may be used as a heat exchanger, said apparatus comprising:

- a) at least one fluid distributing and collecting container;
- b) at least one intermediate material, wherein:
 - 1) said intermediate material comprises a copper / tin alloy;

- 2) said copper / tin alloy comprises at least about 1.0% tin by weight;
and
- 3) said collecting container is welded to said intermediate material;
and
- c) a matrix, wherein:
 - 1) said matrix comprises a plurality of plates separated by a plurality of fins;
 - 2) said plates and said fins are brazed together in at least one brazed zone;
 - 3) said brazed zone comprises a copper / phosphorous alloy; and
 - 4) said intermediate material is deposited over said brazed zone.